

MAXIMUM ATRIAL TRACKING RATE FOR CARDIAC RHYTHM MANAGEMENT SYSTEM

Abstract

5 A cardiac rhythm management system includes an operational mode in
which ventricular pacing pulses are delivered at a rate that tracks a sinoatrial rate up
to an appropriate maximum atrial tracking rate (MATR) value determined by the
10 system. In one example, the MATR value is based on a patient activity level and a
hemodynamic maximum rate (HMR) determined from a QRS-to-S₂ interval, where
S₂ is an accelerometer-generated fiducial correlative to aortic valve closure (AVC).
In a further example, a correlation between the QRS-to-S₂ interval and heart rate is
established, and the MATR is based on the patient activity level and heart rate. In a
15 further example, a lower rate threshold for providing antitachyarrhythmia therapy is
modified based on the MATR. For example, when the MATR exceeds a default
value of the antitachyarrhythmia therapy lower rate threshold, the threshold tracks
the MATR. In another example, the MATR is based on an active time between a
QRS complex and a heart impedance signal maximum slope during the same cardiac
cycle.

"Express Mail" mailing label number: EL709307132US

Date of Deposit: October 19, 2001

This paper or fee is being deposited on the date indicated above with the United
States Postal Service pursuant to 37 CFR 1.10, and is addressed to the
Commissioner for Patents, Box Patent Application, Washington, D.C. 20231.